





NATIONAL

MAN — Rising oil prices in Jordan have caused Jordanian engineers working in solar energy (the Royal Scientific Society (RSS) to redouble their efforts. Their work is now more urgent than ever, since Jordan's oil import bill constituted 12 per cent of gross domestic product (GDP) in 1980.

It is expected that this ratio will rise during the next five years, to the increase in both the assumption and the price of oil in the country. In 1985, it is estimated that total Jordanian oil imports will reach 25 per cent of GDP. So unless Jordan works hard at harnessing another source of energy, it will be faced with major economic problems.

At the RSS, efforts to harness the sun's energy have taken on an urgency. So far, the engineers at the Solar Energy Section (SES) there have channelled these efforts into three main projects: heating water using solar heaters installed in the RSS; desalination of water at Aqaba, and space heating and cooling.

Domestic water heaters were the first RSS solar energy venture. The RSS heater works by one of two simple systems — natural circulation, which is used in houses with no central heating apparatus, and forced circulation, in which the solar heater is coupled to the existing central heating system.

In the first type, water passes through metal pipes heated to a high temperature (approximately 55 degrees centigrade) by the sun's rays; the heated water goes into rooftop tanks, from which the water enters pipes leading to the house's taps.

The RSS design uses locally available material — galvanised steel painted with black paint. For an average house, such a system costs JD 150 for the provision of 150 litres of hot water a day. This system works even on cloudy days, since it utilises diffused sun radiation.

Dr. Malek Kabariti, a Jordanian engineer working in solar energy at the RSS says, "We want to design low-cost systems with material available in the market."

Pays for itself

The system is designed to pay for itself. The estimated payback period is one to two years for the natural circulation system, which

has a lifetime of fifteen years with minimum maintenance.

For the forced circulation system, which is coupled with the central heating of the house, the payback time is from three to four years.

Dr. Hani Al Mulki, head of the SES, told the Jordan Times, "Our main purpose is not to sell solar water heaters, but to promote their use, and produce efficient heaters suitable to our life."

In accordance with this objective, the RSS has signed an agreement with a local Jordanian company to test its equipment and to help it produce efficient and low-cost solar heaters for the Jordanian household.

Engineers at the RSS are continuously monitoring new designs for solar equipment, and the Mechanical Engineering Department has already produced about 500 solar water collectors in a pilot project. These collectors have been installed at various sites in Jordan.

Mr. Kabariti said, "We mostly try to install them for RSS employees, and we try to maintain a high standard as well as a low-cost system."

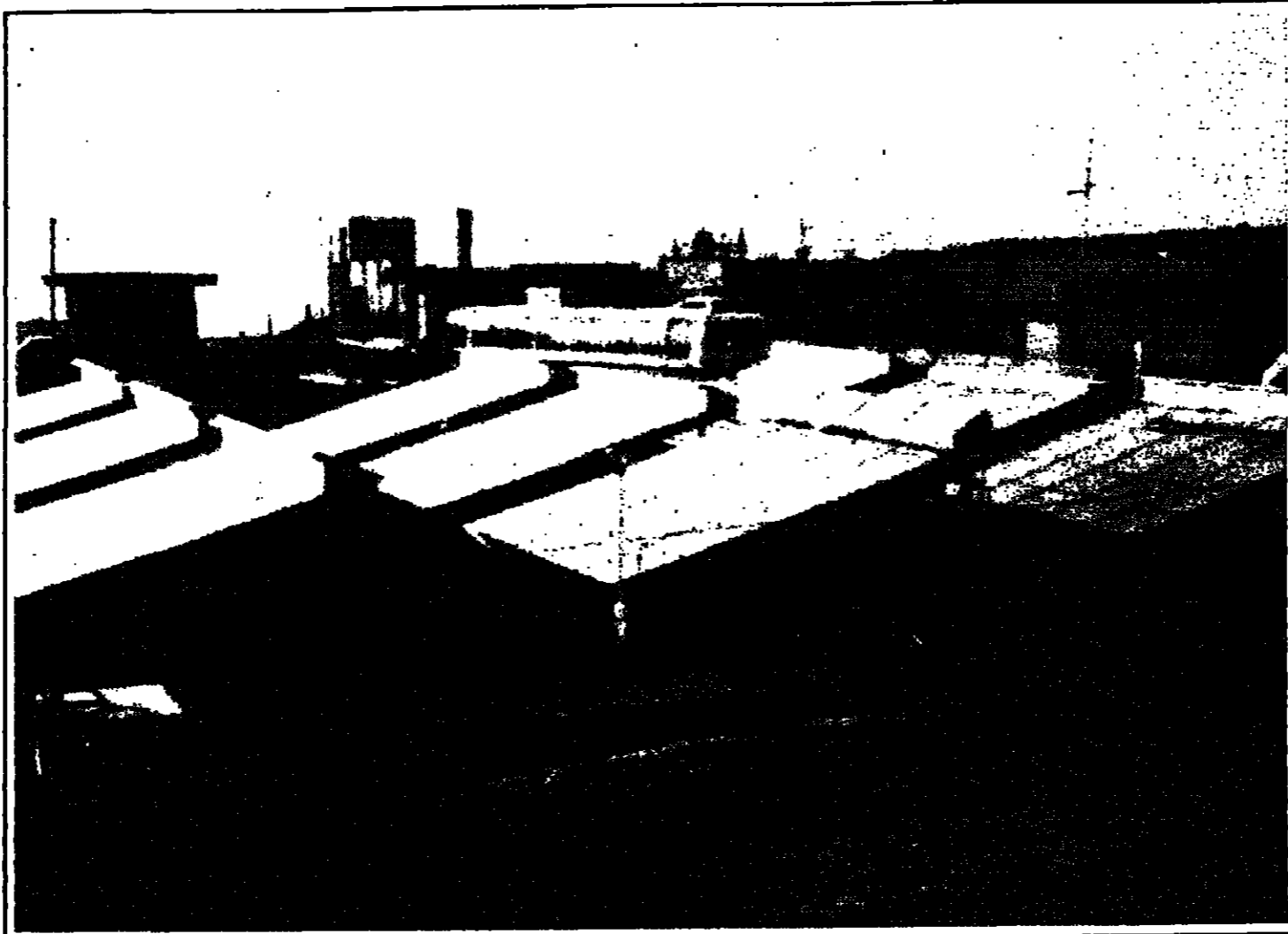
To keep abreast of all new technologies in this field, the RSS has sent many of its engineers to be trained abroad.

The desalination of seawater on the shores of Aqaba was the next RSS project. The desalination plant, installed with the cooperation of the West German company Dornier System, has been set to test the heat-pipe principle for desalinating seawater turning it into fresh drinkable water. Dornier designed the system, and the SES has run the project and recruited the staff.

The Aqaba site was chosen since the climate and the amount of solar energy radiation there are similar to those in other Arab countries. "The RSS is planning to offer its know-how in this field to other Arab countries," Dr. Mulki said.

But the Aqaba desalination project is particularly important to Jordan since the country suffers from a shortage of drinking water in rural and remote desert areas. Most of the underground water sources are in deep wells, and the water there is brackish.

The first stage of the project was completed in 1976. It included site design and construction, weather data collection, experiment design



The Royal Scientific Society's solar desalination project at Aqaba

# Jordan looks to the sun

DINA MATAR reports on private and public efforts in Jordan to draw energy from the

sun -- which, unlike oil, never gets scarcer or more expensive.

and planning, as well as the construction of the plant. The second stage, completed in 1979, involved research and development.

The SES and Dornier studied the various design factors affecting the plant's output.

Now the plant's daily production amounts to six litres of fresh water for every square metre of energy-collecting surface.

"The third stage is now under way," Dr. Mulki said; "it will include the installation of deep and shallow basic stills using the greenhouse effect."

The greenhouse effect has been studied on the RSS grounds, and was found to be quite efficient.

RSS engineers are continuously checking on the performance of the plant, and they are experimenting with different materials — such as steel, copper and aluminium — in various parts of the system, to determine which is the best and least expensive one for use in the plant.

Space heating, cooling

Another joint research project, on space heating and cooling, has been initiated recently in cooperation with the Kuwaiti Institute for Scientific Research (KISR).

The RSS will conduct the research associated with space heating and domestic hot water supply, and the KISR will work on space cooling.

"Space heating and hot water supply are two of the important requirements in Jordan," Dr.

Mulki said. "We can do without cooling our houses at the moment." The KISR will also contribute part of the project's expenses.

Now, a solar house — 130 metre square — is being built for research and development purposes on the RSS grounds, and various heating methods will be tested there. Mr. Kabariti told the Jordan Times, "the sun's energy will be stored as heat in rocks or water there, then extracted and pumped into ducts or pipes to heat the house."

The space heating project will involve a design for an effective active system using pipes, pumps, solar collectors and underfloor heating, and another passive system which uses the orientation of the house, and other construction parameters, for heating and cooling processes.

Evaluation of both system and the evaluation of their thermal performances will be part of the project at the RSS. These evaluations will also be related to Jordan's climatic conditions.

But for the next four months, the SES will continue a detailed study on the possible applications in Jordan of renewable sources of energy such as solar and wind energies.

Setting priorities

"Our main objective is to know the energy needs of our people,"

Dr. Mulki said.

This will necessitate a detailed study to evaluate the available climatological data in Jordan, and another parallel study to try and set the priorities for energy uses here.

Other technical, economical, and sociological prefeasibility studies will have to accompany these two studies. Dr. Mulki said, "We have to know what our people mostly need in accordance with the application of renewable sources of energy."

He added that the combined studies would give the SES and idea as to the foremost needs and priorities for RSS projects under the next five-year plan.

Projects already set for the five-year period include: water pumping in remote areas, the use of renewable sources of energy, electricity generation, use of solar energy for agricultural purposes and solar ponds for power generation.

The society will also work to strengthen local know-how in this field. This could be done by recruiting local manpower and promoting the local manufacture of systems to exploit renewable energy sources under typical Jordanian climatic conditions — especially in remote and rural areas, where conventional sources of energy are lacking.

We have to continue conducting extensive research, testing pilot plants and establishing the scientific base at the RSS for the benefit of Jordan and its people," Dr. Mulki affirmed.

Private solar enterprise

Besides the RSS, other Jordanians have also ventured into the solar energy business.

Over the past eight years, the Arab Solar Industries Corporation (ASIC), better known as Hanania, the Hanania solar heater company, has been operating on a large scale, with no competition so far in the market.

In 1980 alone, the company sold as many as 4,416 square metres of solar collectors. It expects to sell around 15,000 square metres of collectors by the end of 1981. Each square metre produces about 100 litres of hot water every day.

When production first started in 1973, a very simple, yet efficient, solar water heater was being produced. Made of locally available

material, such as galvanised steel, the heater was installed in various parts of the country to test its efficiency.

The output then was about 120 litres of hot water for every square metre of collecting surface.

In the span of eight years, the ASIC has been able to develop a solar system which can easily be coupled with the existing mechanical heating system of any building. This system provides roughly 100 per cent of the domestic hot water supply the year round, and saves a minimum of 50 per cent of the diesel fuel usually used for space heating in winter.

Mr. Edward Hanania, chairman of the ASIC board of directors, said, "The new system gives about 300 litres of hot water every day."

All systems are sold at a rate of JD 1 for every litre of hot water produced in a day. Thus, "if the capacity of the system is 200 litres, the total cost would be JD 200," Mr. Hanania told the Jordan Times. The price includes the installation and cost of all electronic controls for the system.

The company, a pioneer in the Middle East, has carried out major projects in Jordan and other Arab countries, such as the Aqaba Housing project, space heating at the Alia Housing Project and many others.

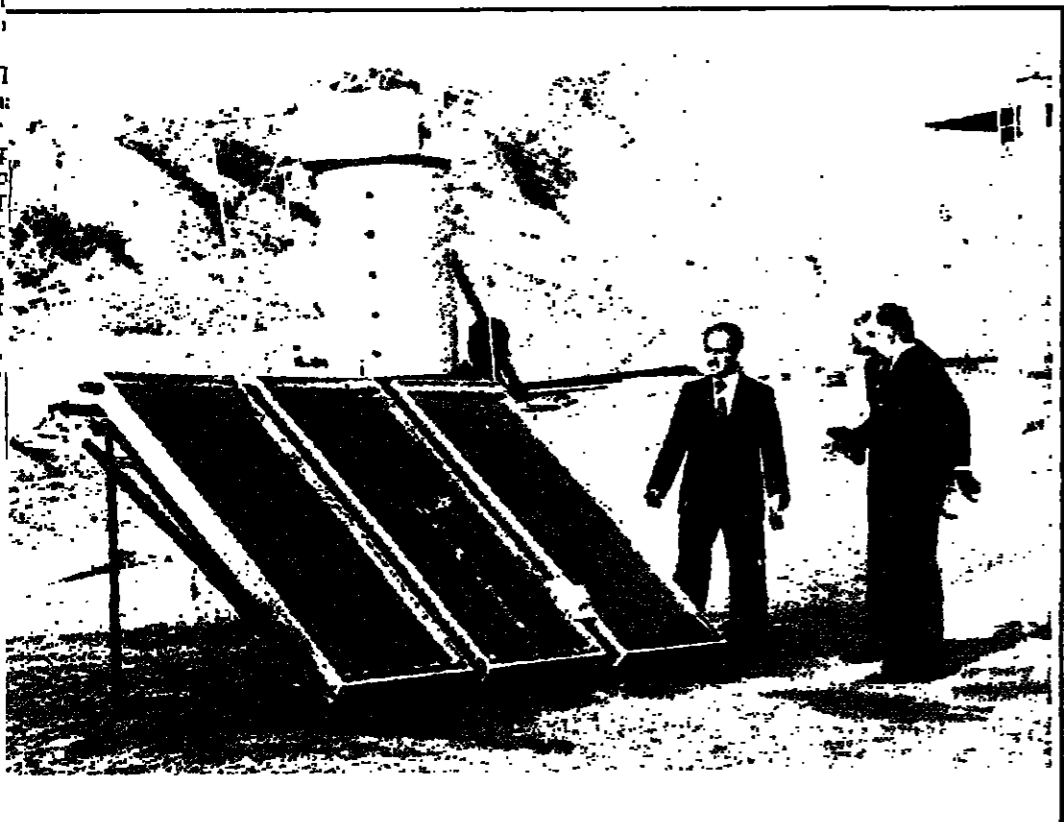
One interesting project is the swimming pool that has been installed at the British Embassy Club in Amman, whose water is kept heated all through the year by solar collectors.

The ASIC has also tried its hand in space cooling, and installed its first space cooling system in an Amman building in 1978.

What sets the company apart is its constant upgrading of its equipment, techniques and staff. As Mr. Hanania said, "We try to keep abreast of all new developments in this field, and we always take part in international conferences on solar energy."

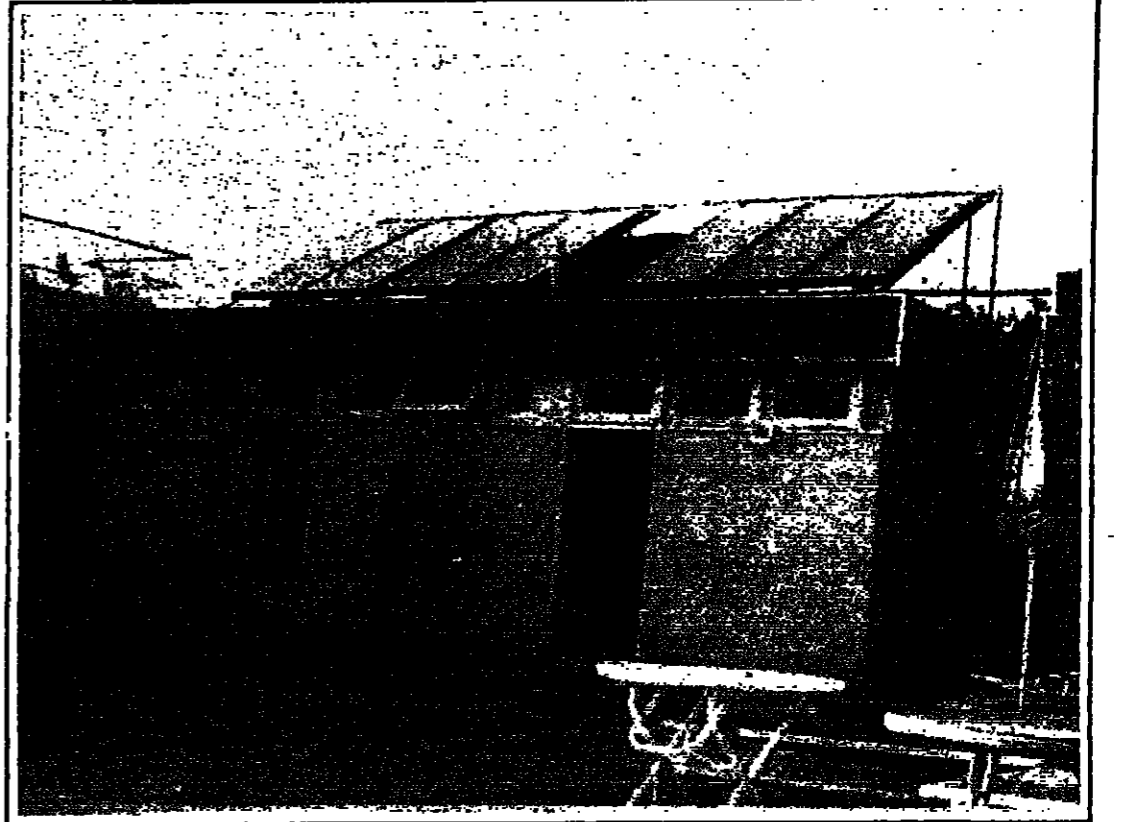
On the other hand, the company has been training engineers from other Arab countries, besides giving its own engineers on-the-job training.

On a much smaller scale, around 10 workshops are now operating all over Jordan, and producing simple but efficient heaters based on the same principle of collecting the sun's rays on a metal surface and then transferring the heat into metal pipes.

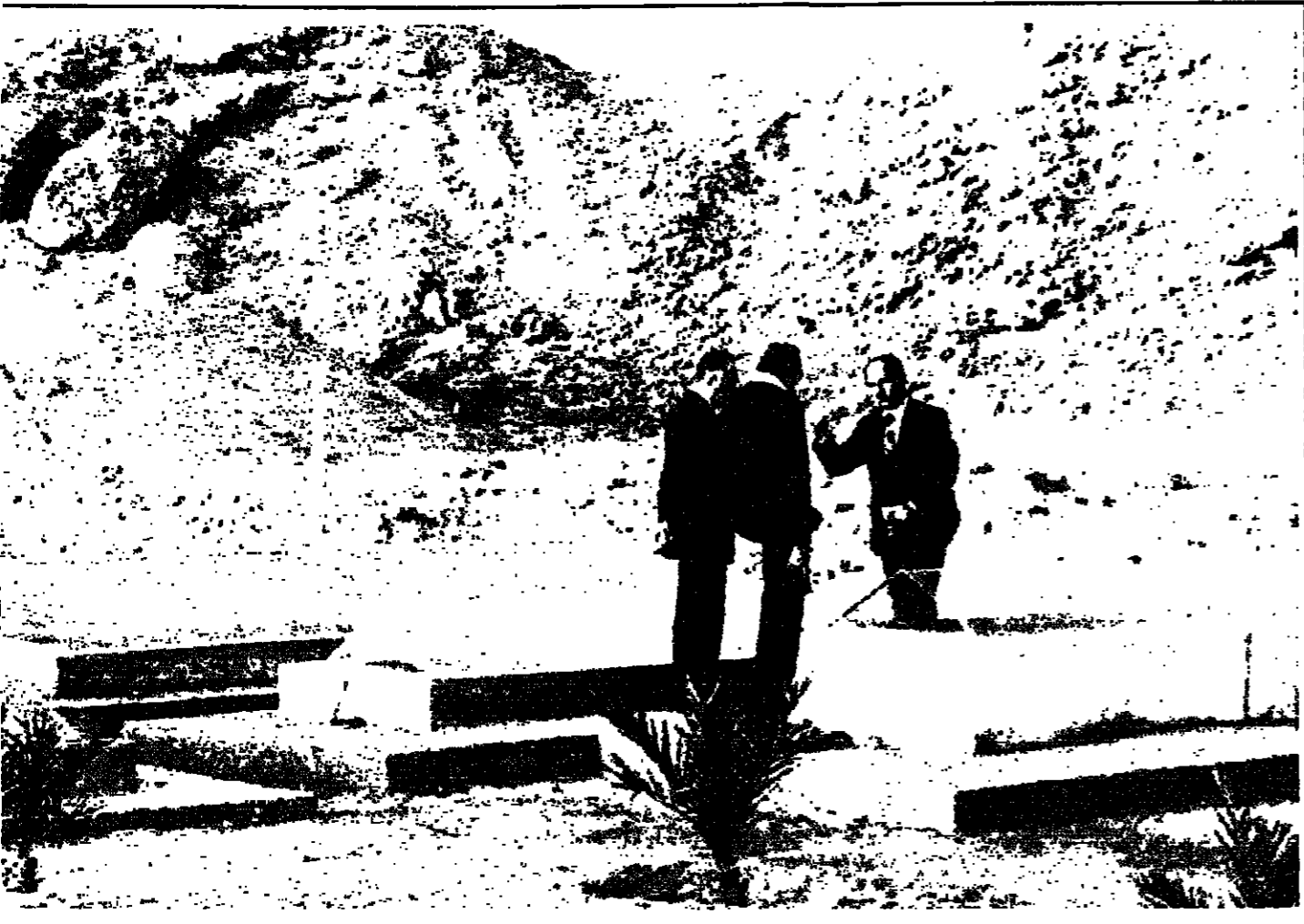


RSS official explains the society's solar home water heaters...

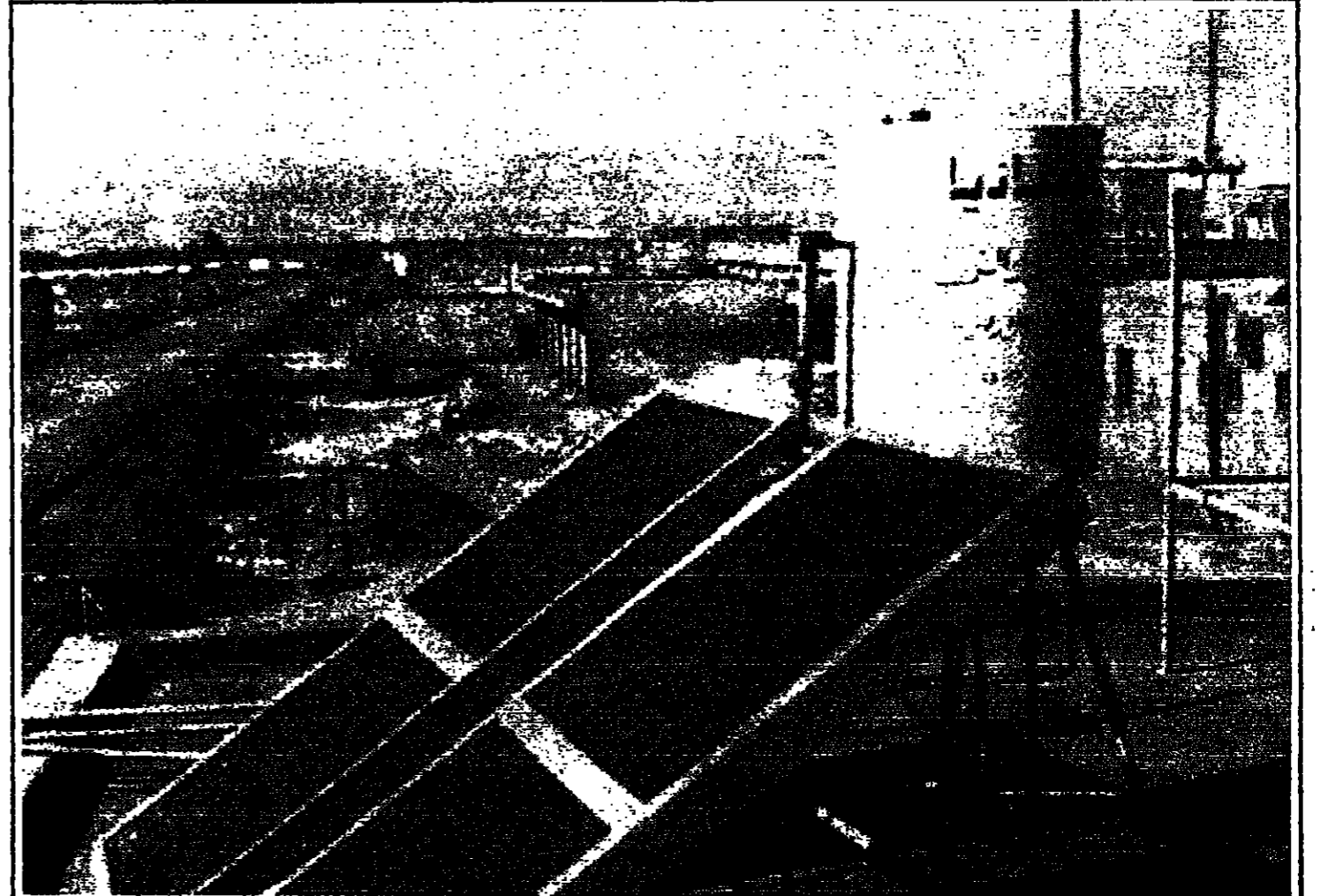
Dr. Mulki said, "and to set priorities. After that, we will try to satisfy these needs through utilising renewable sources of energy."



The British Embassy Club pool, with water heated by solar energy



and "greenhouse" water purifiers



The Hanania company's first solar water heater model, produced first in 1973

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# MIDDLE EAST

## Libya supported franc, French magazine says

PARIS, July 18 (R) — The French magazine *Le Point* said in its issue to be published tomorrow (Sunday) that France decided to resume arms deliveries to Libya last week only because Col. Qadhafi's government was supporting the troubled French franc on foreign exchange markets.

In an unreported report the weekly said the real reason behind lifting the five-month-old embargo was Libyan support through Swiss banks to help stop the franc's collapse against the dollar.

A French foreign ministry spokesman declined comment on the unreported article.

The new Socialist government on Wednesday announced the end of an embargo on arms delivery to Libya.

It also cancelled an order banning the state-owned Elf-Aquitaine oil company from carrying out oil exploration contracts agreed with Libya earlier this year.

## Iran condemns Israeli attack

LONDON, July 19 (R) — Iran today called for joint Arab action against the United States over Israeli air strikes against Palestinian targets in the Lebanon.

Iranian state radio, monitored in London, said Iran would observe a day of mourning tomorrow and that the Iranian flag would be flown at half mast for three days.

A ministry statement said Israel had carried out an "inhuman attack" backed by the U.S. and Iran reserved the right "to take any action against such fascist deeds at any time."

The statement asked why all Arab weapons were not being put at the disposal of the Palestinians and why Syria, Lebanon and the Palestinians were being left alone in the battlefield.

"Such massacres will not cease unless all the fire power and the oil weapon we have are used against the United States," the statement added.

"Why was the information gathered by AWACS (radar surveillance planes) about the attacks not passed on to the Palestinians and the Syrians," the foreign ministry statement said in an apparent reference to Saudi Arabia.

Last October Saudi Arabia received AWACS from the U.S. to guard its oilfields after the outbreak of the Iraq-Iran war.

Meanwhile, the Iranian state radio said today that five people condemned by Islamic revolutionary courts in northern Iran were executed last night.

The radio said one of them was charged with drug smuggling and declared a "corrupt of the earth," which is punishable by death under Iran's revolutionary laws.

The four others belonged to the radical Muslim People's Mujahadeen group, the radio said.

The Mujahadeen are the main target of the current anti-leftist campaign by the ruling Islamic Republican Party (IRP) in Iran, which has resulted in more than 200 executions.

Another turning point came

## Latest Israeli attacks on Lebanon: A drive for crushing superiority

By Patrick Worsnip

BEIRUT — In unleashing devastating air strikes on Palestinian targets in Lebanon, Israel has shown it is only prepared to negotiate a Middle East peace from a position of crushing superiority, according to analysts here.

The attacks, which have killed or wounded hundreds of people and caused enormous damage to property, have left the United States once again confronted with the problem of how far it can allow itself to appear to be underwriting the policies of its uncompromising Israeli ally.

After raids on densely-populated areas of the Lebanese capital on Friday, the Reagan administration announced it had delayed a decision on whether to resume F-16 warplane shipments to Israel suspended after Israel bombed Iraq's nuclear reactor on June 7.

Although the State Department declined to link the delay with the bombing, officials in Washington acknowledged that the Israeli attacks complicated U.S. policy-making.

Middle East analysts here said Israeli Prime Minister Menachem Begin, by launching a series of punishing attacks even before forming a government on the strength of a narrow election victory on June 30, was showing that Middle East peace efforts would have to take account of Israeli insistence on complete military superiority.

Israeli raids on Lebanon date back to the mid-1960s when newly emerged Palestinian commando groups began attack on Israel from Lebanese territory.

In December 1968, Israeli commandos at Beirut airport and blew up 13 Lebanese civil aircraft in retaliation for a commando attack on an Israeli airliner in Athens.

There were several brief Israeli ground incursions into Lebanon in 1970 and 1972.

Another turning point came when Mr. Begin's first government decided in 1977 on a policy of pre-emptive, rather than only retaliatory, strikes against the Palestinian bases in South Lebanon.

In March 1978, an attack by the Fatah group on an Israeli bus near Tel Aviv, in which 35 people died, touched off an Israeli incursion into South Lebanon up to the Litani River.

The Israelis withdrew three months later, and the United Nations Interim Force in Lebanon (UNIFIL) moved in to keep the two sides apart.

UNIFIL is still there, but has been unable to enter a 10-km wide strip of Lebanese territory along the Israeli border which is controlled by the Israeli-backed rightist militia of Maj. Saad Haddad.

Recently Palestinian operations against Israel have been on a modest scale. The Palestine Liberation Organisation (PLO) says they are normally launched from Israeli-occupied territory.

But the Israelis have expressed concern about an influx of heavy weaponry, much of it supplied by oil-rich Arab states such as Libya, to bases run by radical Palestinian groups in South Lebanon.

Weapons like the BM-21 multiple rocket-launcher are capable of firing over the heads of UNIFIL and Maj. Haddad's men and hitting towns in northern Israel.

Such a rocket killed three people two days ago in the Israeli town of Nahariya, provoking massive retaliation for the past two days.

The Palestinian rocket attack followed two Israeli air raids on Palestinian targets in South Lebanon. These came after a five-week lull over the Israeli elections.

In the past week about 40 times as many people have been killed in Lebanon as in Israel.

The Israeli raids have also destroyed six bridges and effectively cut the country in half. Israeli leaders have indicated that the bridges will be blasted again if they are rebuilt.

Michel Abu Jaudeh, editor of the leading Beirut daily *An Nahar*, wrote that the Arab states and the PLO would in future have to deal with a more militant Israeli administration.

He listed Israeli objectives as intensive settlement of Jews in the West Bank and Gaza, pressuring Lebanon, Syria and Jordan into joining the Egyptian-Israeli Camp David peace process, and keeping up strikes on Palestinian commandos and targets in Arab countries—like the Iraqi reactor—deemed to threaten Israeli security.

The Lebanese government, under pressure from the local Shi'ite community to tackle the situation in the south, has little chance of achieving anything alone.

It is incapable of enforcing 1969 and 1970 agreements which were supposed to regulate the Palestinian presence in Lebanon, and even less capable of disarming the commandos.

Most Arab countries believe only the United States is in a position to pressure Israel into meaningful negotiations.

But although Washington says it has still to formulate its Middle East policy, some Arab states have already drawn the conclusion that the Reagan Administration is one of the most pro-Israeli of recent years.

Beirut newspaper have said the Lebanese government might appeal to U.S. envoy Philip Habib, now touring the Middle East in search of a solution to the crisis over Syrian missiles in Lebanon, to urge Israel to stop the raids.

But Syria and Lebanese leftists have already denounced Mr. Habib as an Israeli spokesman and charged that his latest visit to the region is intended to give the green light to Israel to resume attacks on the Palestinians.

Reuter

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Association Chairman

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Interested specialised companies and contractors should refer to the secretary of the Bids Committee in the main building of J.V.A., to buy a copy of bid conditions and specifications for JD 25 (non-refundable), provided that they have a valid professional licence.

Last date for receiving bids is Wednesday, 12/8/1981, at 12 o'clock noon.

Omar Abdelfah Dokhan President JVA

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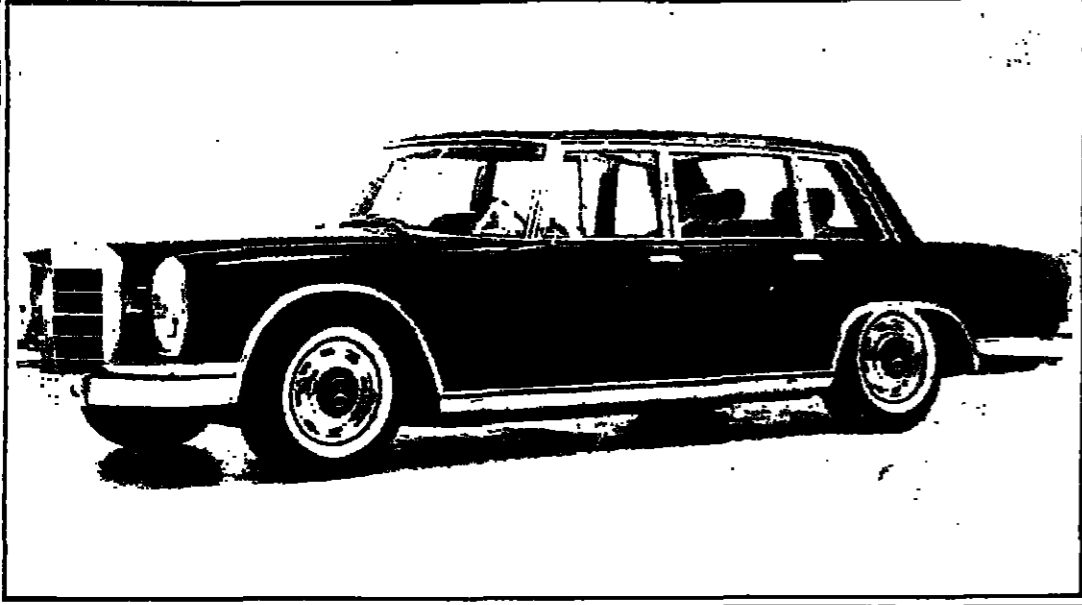
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سنة ١٩٨١

# ECONOMY

## The last Mercedes 600



**STUTT GART (DaD) —** At the end of June the last of 2,677 made-to-order Mercedes 600s rolled off the Daimler-Benz assembly line at Sindelfingen, near Stuttgart. The first was a sensation at the 1963 Frankfurt motor show, a masterpiece of know-how, comfort and automotive quality. The last will be on show at the Daimler-Benz museum alongside its predecessors at the upper end of the Mercedes range. Its place will be taken by the 500 SEL.

## U.S., EEC blamed for failure in textile talks

GENEVA, July 18 (R) — Developing countries yesterday attacked the European Common Market (EEC) and the United States for a failure to get down to negotiations this week on a new agreement governing the world textile trade.

The developing states also moved to head off a provision allowing the richer nations to make what they call reasonable departures from the current Multifibres Arrangements (MFA) to protect their textile industries against cheap Third World imports.

Speaking in the textiles committee of the General Agreement on Tariffs and Trade (GATT), Argentina, Egypt, Peru, the Philippines, Brazil, Hong Kong and Mexico attacked U.S. and EEC calls earlier this week for the next MFA to give states more flexibility in regulating imports and exports.

The 27 developing countries in the current MFA, which runs out at the end of the year, put in a series of proposals for the next agreement while the 10-nation EEC and the U.S. made general statements in committee.

The committee meets again on Monday when it is expected to set a September or October date for resuming talks, officials said.

## U.S. oil rigs conquer rich fishing grounds

BOSTON, July 18 (R) — Oil rigs will move into one of the world's richest fishing grounds next week after a 10-year battle over conservation.

Two oil firms yesterday announced plans to move ahead with exploration after a government decision to accept promised safeguards on pollution.

Environmentalists joined the wealthy of Cape Cod summer resorts like Hyannisport, home of the Kennedy family, in trying to prevent oil and gas exploration on Georges bank.

The 20,000 square mile bank, which produces 17 per cent of the fish Americans eat, also has between 150 and 530 million barrels of oil under the ocean bed, the government estimates.

The Zapata company of Houston, Texas, operators of a rig for Shell Oil, said it hoped the first exploratory drilling could begin by Sunday. Exxon is to tow a rig to a second site.

# The man with the 'second-best job in Washington'

By Reginald Dale

Talk to anyone in Washington these days about the U.S. economy and it is a fair bet that the name of Beryl Sprinkel will crop up within the first two minutes.

Dr. Sprinkel (who turns out, rather confusingly, to be a "he," not a "she," — his first name is pronounced "Burl") is one of the principal official spokesmen for President Reagan's economic policy. He is a devout disciple of Milton Friedman and one of the new administration's most controversial figures.

His opponents, including some at the Treasury, where he holds the powerful position of Under-Secretary for Monetary Affairs, consider him an "over-aggressive monetarist." In their eyes, his obsession with the need for the strictest control of the nation's money is both economically narrow-minded and politically dubious.

He is at the centre of a friendly but complicated argument over the techniques of monetary policy,

Chicago's third largest bank. He has long been prominent on the international financial circuit, and is well known in the trade as an outspoken advocate of monetarist policies — that, indeed, is why President Reagan chose him for the job.

Particularly relevant to today's cut-and-thrust in Washington, he was also a member of the shadow open market committee, a monetarist pressure group that monitors the Fed's open market committee (the operational arm which sets short-term monetary policy).

It is ironic that the turn of the political wheel has brought such a longstanding critic of the Fed into a post once held by Mr. Paul Volcker, the Fed's current chairman, and more recently Mr. Anthony Solomon, now president of the Federal Reserve Bank of New York.

A visit to Dr. Sprinkel's office will trigger a rapid fire defence of monetarism delivered with all the energy of a high pressure salesman. A colleague likens it to the scherzo of a Bruckner symphony — what would normally be spread

over 30 minutes is condensed into two.

Dr. Sprinkel refuses to have any truck with the off-the-record briefings to which the monetary Mafia is traditionally so attached. "I have not gone off the record

slowdown in the growth of the U.S. money supply is absolutely essential if the country's high interest and inflation rates are to be brought down.

By last November's presidential election, he says, the U.S. money

expectations which have been generated by many years of excessive monetary growth.

"High interest rates are a symptom of inflation and rapid money growth, not a cause," in his view. "The only way permanently to reduce interest rates is to control inflation and break the cycle of inflationary expectations. This can only be achieved by decelerating money growth."

Over at the Fed they agree that tight monetary policy is a *sine qua non* if inflation is to be brought down. But they do not believe that that is all there is to it.

Fed officials say the Treasury is making monetary policy carry too much of the load. They would like more urgent attention to be paid to the budget deficit, perhaps by delaying tax cuts and defence spending increases. If that were done, President Reagan's budget cuts could be seen to be eating into the deficit and interest rates should come down.

Dr. Sprinkel agrees that there are good reasons for reducing the deficit — it is adding to upward pressure on interest rates and taking credit away from private use. But he does not agree with the Fed that the deficit is necessarily inflationary.

"The root cause of high rates is the inflation and inflationary

since I arrived in Washington and I don't plan to," he says defiantly. "They can send me home if they don't like it."

Dr. Sprinkel admits that monetarism is not the answer to every single economic problem. But he is adamant that a steady

supply was growing at the fastest six-monthly rate since World War Two. Dr. Sprinkel insists that this is behind today's high American interest rates, which have caused such distress in Europe. They are not, he insists, the result of deliberately tight money policies imposed by the Reagan Administration.

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Financial Times News Feature

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The Jordan Times can accept classified advertisements that are sent in by mail and accompanied by full payment in cash. Readers and advertisers who cannot conveniently bring their advertisements to the Jordan Times office or to an advertising agency office in Amman may send in their ads by mail on the following conditions:

1. Full payment in cash or check accompanies the advertisement.
2. The minimum charge for a single advertisement is JD 6
3. Advertisements sent by mail cannot contain any artwork such as company emblems, photos or drawings, but must consist only of a headline and copy that will be typeset by the Jordan Times.
4. Advertisements are not accepted over the telephone or telex, and guaranteed insertions on specific dates can only be assured by sending in the advertisements so they reach the Jordan Times office at least two days before the required day of publication.
5. For the minimum price of JD 6, the advertiser will have published an advertisement of three centimetres on two columns, which will have a maximum of 30 words, including the headline and telephone numbers to be called. The JD 6 charge is for one insertion; two insertions cost JD 12, three insertions cost JD 18, etc.
6. For a larger ad, the rates are JD 8 for 40 words and JD 10 for 50 words.
7. You can take advantage of the Jordan Times advertising by mail facility by completing the form below and mailing it with full payment in cash or check to:

Advertising Department  
The Jordan Times,  
P.O.Box 6710,  
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(write one word only per box — please print)


Please publish the above advertisement in the Jordan Times on — day (s). Enclosed is payment of —

Name: \_\_\_\_\_  
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# Ivory Coast's vanishing forests

By Stephen Powell

SAN PEDRO, Ivory Coast — In little more than a decade, San Pedro has grown from a tiny fishing hamlet to a boom town of 50,000 people, capital of the Ivory Coast's "Far West" and the most important timber port in Africa.

The exploration of the surrounding tropical forests has brought wealth, but also problems, to San Pedro, centre of the new frontier of the biggest economy in French-speaking Africa.

As the forests rapidly dwindle,

there are those who predict that the town's decline could be as swift as its meteoric rise.

According to forestry experts, scarcely any country in the world is destroying its forests quite as ruthlessly as the Ivory Coast. The area covered by the dense

forests has shrunk from 12 million hectares 25 years ago to four million hectares today and foresters say the destruction is continuing at the rate of about 400,000 hectares a year.

"It really has been a bit like the far West," said Samuel Harding, the deputy mayor. "People came from all over, not only from the Ivory Coast but from Mali, Upper Volta, Togo, Liberia, Ghana, Senegal and Mauritania."

The government in Abidjan, about 350 kilometres to the east, had ambitious plans for San Pedro. According to the master plan for the town, the population is projected to reach 300,000 by the turn of the century.

The authorities began building the port of San Pedro in 1968 to create a second centre of growth in the country and to ease the congestion at the port of Abidjan, the busiest in West Africa. The new port opened in 1971.

But because of the world economic recession, several projects designed to ensure San Pedro's future in the post-timber era have been indefinitely postponed.

None of this has materialised. San Pedro's future, when the timber exports drop, rests for the moment on the agricultural programmes which are going ahead.

There are two major rubber projects, a palm oil programme and development of coffee and cocoa. Last year there were already shipments of 55,000 tonnes of coffee and 32,000 tonnes of cocoa.

Timber, however, far outweighs the other exports, accounting for 1,368,000 tonnes out of total exports of 1,513,000 tonnes in 1980.

The timbermen are not optimistic about San Pedro's future. "The story of San Pedro is behind us rather than in front of us," said the local manager of a leading French timber company. He stressed the speed at which the forests were disappearing.

"The drama of the Ivory Coast forests is that anyone can come in and exploit them. All you need is a telephone, a telex and a secretary, and off you go. In boom periods I've known Lebanese small traders and even butchers become foresters overnight," he said.

## NOTICE From Jordan Electricity Authority Regarding Issue of tender No. 17/81

### Distribution Transformers for South Rural Electrification Projects.

Jordan Electricity Authority announces the availability of tender documents for tender No. 17/81 for the design, manufacture, test and supply of 72 Distribution Transformers for South Rural Electrification Projects. This tender will be financed by the World Bank. Subsequently only contractors from the countries which are members in the World Bank in addition to Switzerland and Taiwan, are invited to participate in this tender. One set of tender documents for this tender can be collected from:-

**Jordan Electricity Authority  
Purchasing Dept.  
5th Circle - Jabal Amman**

at a non-refundable amount of JD 15 for one copy.

The last day for receiving offers on this tender will be at 12.00 noon of Saturday 5.9.1981 and to be submitted to Secretary of the Tendering Committee at the above address. Offers should be accompanied with a bid bond equal to 2 per cent of the tender price.

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